

Amendments to the Specification

Please replace paragraph [00025] with the following amended paragraph:

[00025] Returning to FIG. 5, the scanning then proceeds in step 240. For every piece of data gathered, the data is transmitted to the internal controller module either for processing or for further transport to the controller. The data gathered may be stored by the internal controller module in storage 245 for processing or for subsequent retransmission. Step 250 is that of incrementing the filter setting to scan the next portion of the scanning region. Decision 260 determines, from the incremented filter setting, whether the portion to be scanned is outside the scanning region (i.e. past the end of the scanning region). If the portion is not past the end of the scanning region, then that portion is scanned (step 240) and the loop formed by steps 240, 250, and 260 continues. If, however, the portion is past the scanning region, the scan ends (step 270) and the internal control module prepares for the next scanning region (step 280).

Please replace paragraph [00026] with the following amended paragraph:

[00026] Once the data has been collected, this must be compared with reference data to determine whether the optical network is performing within acceptable parameters. The reference data is preferably retrieved from a logically remote location by either the internal controller module 140 in the optical component or the controller 40 which controls the subsystem. This means that the reference data is to be retrieved from somewhere other than within the optical component. One possible location for this data is at an optical network terminal 295. This retrieval can easily be done as the reference data are ideal parameters set by manufacturers of either the optical component or the optical network itself.

Please replace paragraph [00029] with the following amended paragraph:

[00029] Another use of the above scanning method is to determine whether the system as a whole is functioning properly. The optical network node 10 connected to the scanning apparatus or scanning module 110 can be equipped with multiple ports and a

switching network as shown in FIG. 3. The switching network 100 would allow the scanning module to be connected to any of the ports. Once connected to a port, the scanning module 110, after receiving the relevant center wavelengths, can scan the relevant scanning regions. After such scanning and storing the scanning results, a waveform of the carrier spectrum emerges. By comparing this waveform with the expected waveform of the carrier spectrum, it can easily be determined whether the node connected to the port in question is functioning properly. Processing the data collected from the scanning can be as simple as plotting the gathered data and requesting that the expected data be transmitted from a logically remote location. Once this reference data is received, it too can be plotted and a one-to-one correspondence between the two plotted data sets can be made. If they match, then the node connected to that port is functioning properly. If the two waveforms do not match, then any major discrepancies can be the basis for an alarm notification to the controller.

Please replace paragraph [00030] with the following amended paragraph:

[00030] As an added feature to the above data gathering and data processing optical network node, the scanning and processing equipment can be self-calibrating. Once both the gathered data set and the reference data set are plotted, the differences between them should be readily apparent. If the two waveforms track each other closely, then the portion of the network accessible through the port is functioning properly. However, to ensure that any subsequent tests are accurate, the internal controller 140 can request at least one specific data point on the reference data set waveform from the external controller for a direct comparison with its corresponding data point from the gathered data set. The difference between these two data points is determined and then the gathered data set is uniformly adjusted so that its waveform is substantially equal to the reference data set. The amount of the adjustment is ideally uniform across the gathered data set. Such an adjustment amount can be as simple as the difference between a gathered data set point and a reference data set point. Subsequent measurements can also be adjusted by the same amount to ensure accuracy.